What is claimed:

1. A method of imaging a selected tissue region of a patient's body, comprising the steps of:

transmitting radiation into said selected tissue region of said patient's body during an exposure period;

detecting radiation from said selected tissue region of said patient's body, wherein detected radiation from said selected tissue region includes a scattered portion corresponding with photonic energy scattered within said selected tissue region, and a non-scattered portion corresponding with photonic energy passing through said selected tissue region substantially free from scattering;

estimating first and second parts of said scattered portion, wherein said first part corresponds with photonic energy passing through said selected tissue region with a single scattering occurrence, and wherein said second part corresponds with photonic energy passing through said selected tissue region with multiple scattering occurrences;

obtaining radiographic image data in relation to said detected radiation from said selected tissue region; and,

utilizing the estimated first and second parts of said scattered portion to adjust said radiographic image data.

2. A method as recited in Claim 1, wherein said first part includes at least one of a Compton scatter component and a Rayleigh scatter component.

3. A method as recited in Claim 2, wherein said estimating step includes:

determining said at least one of a Compton scatter component and a Rayleigh scatter component as a function of a measured dimension of said selected tissue region.

4. A method as recited in Claim 3, wherein said estimating step further includes:

determining said at least one of a Compton scatter component and a Rayleigh scatter component as a function of said measured dimension and an estimated density of at least a portion of said selected tissue region.

5. A method as recited in Claim 1, wherein said estimating step includes:

determining at least one of a Compton scatter component and a Rayleigh scatter component as a function of an intensity value of said transmitted radiation incident upon said selected tissue region.

6. A method as recited in Claim 1, wherein said utilizing step includes:

subtracting said first and second parts from said radiographic image data to adjust the image data; and,

displaying the adjusted radiographic image data.

7. An apparatus for use in imaging a selected tissue region of a patient's body, comprising:

a source for transmitting radiation into said selected region of said patient's body;

a detector for detecting radiation from said selected region of said patient's body, wherein detected radiation from said selected tissue region includes a scattered portion corresponding with photonic energy scattered within said selected tissue region, and a non-scattered portion corresponding with photonic energy passing through said selected tissue region substantially free from scattering; and

a processor operative for:

estimating first and second parts of said scattered portion, wherein said first part corresponds with photonic energy passing through said selected tissue region with a single scattering occurrence, and wherein said second part corresponds with photonic energy passing through said selected tissue region with multiple scattering occurrences;

obtaining radiographic image data in relation to said detected radiation from said selected tissue region; and,

utilizing the estimated first and second parts of said scattered portion to adjust said radiographic image data.

8. An application as set forth in Claim 7, wherein said source is operative for transmitting said radiation in a form of a beam having a first beam dimension that is less than a corresponding dimension of said selected region of said patient's body.

9. An application as set forth in Claim 8, wherein said source is operative for scanning said beam across said area of interest.

10. An application as set forth in Claim 7, wherein said detector includes and active detector area having a first detector dimension less than a corresponding dimension of said patient's body.

11. An application as set forth in Claim 7, wherein said processor is operative for receiving scatter related parameter information for a specific imaging procedure and using said parameter information to estimate one of said first and second parts.

12. An application as set forth in Claim 11, wherein said parameter information relates to an intensity of radiation transmitted by said source.

13. An application as set forth in Claim 11, wherein said parameter information relates to a density of at least a portion of said selected tissue region of said patient's body.

14. An application as set forth in Claim 7, wherein said processor is operative for receiving measurement information, obtained with said patient disposed in an imaging position relative to said source and said detector, and using said measurement information to estimate one of said first and second parts.

15. An application as set forth in Claim 14, wherein said measurement information relates to a dimension of said selected tissue region of said patient's body.

16. An application as set forth in Claim 14, wherein said measurement information relates to a compression force exerted on said selected tissue region of said patient's body.

17. An application as set forth in Claim 14, wherein said measurement information relates to an intensity of radiation incident on a detector area outside of a predetermined imaging frame of reference corresponding to said selected tissue region.

18. An application as set forth in Claim 13, wherein said measurement information relates to intensities of radiation incident on multiple detector areas outside of a tissue imaging portion of said detector.

19. An application as set forth in Claim 14, wherein said measurement information relates to a profile, relative to a first axis of said detector, of radiation intensities incident on said detector.

20. An application as set forth in Claim 19, wherein said measurement information relates to a profile, relative to a second axis different than said first axis, of radiation intensities incident on said detector.

21. An application as set forth in Claim 14, wherein said measurement information relates to a spacing between said selected tissue region and said detector.

22. An application as set forth in Claim 7, further comprising an attenuator having known radiation attenuation characteristics for attenuating, on a spatially dependent basis, radiation directed to said detector wherein said attenuator is positioned relative to said detector outside of a predetermined frame of reference corresponding to said selected tissue region.

23. An application as set forth in Claim 7, wherein said processor is operative for determining a spacing between said selected tissue region and said detector so as to reduce one of said first and second parts of said scatter portion.

24. A method of imaging a selected tissue region of a patient's body, comprising the steps of:

transmitting radiation into said selected tissue region of said patient's body during an exposure period;

detecting radiation from said selected tissue region of said patient's body, wherein detected radiation from said selected tissue region includes a scattered portion corresponding with photonic energy scattered within said selected tissue region, and a non-scattered portion corresponding with photonic energy passing through said selected tissue region substantially free from scattering;

positioning a patient in a desired position for a radiographic procedure;

with said patient positioned in said desired position, operating a parameter measurement device to measure a procedure specific value of a scatter related parameter and provide an output indicative thereof;

obtaining radiographic image data in relation to said detected radiation from said selected tissue region; and

operating a processor to receive said output and use said image-specific value of said scatter related parameter to adjust said radiographic image data.

25. A method as set forth in Claim 24, wherein said step of obtaining radiographic image data comprises operating a detector to detect said detected radiation and provide a detector output indicative thereof, wherein said detector output reflects imaging information for different portions of interest obtained at corresponding different times of said exposure period.

26. An apparatus for use in imaging a selected tissue region of a patient's body, comprising:

a source for transmitting radiation into said selected region of said patient's body;

a detector for detecting radiation from said selected region of said patient's body and providing first imaging information based thereon;

a patient support for supporting the patient such that said selected region is maintained in a desired imaging position for a radiographic procedure;

a sensor for measuring a procedure specific value of a scatter related parameter with said patient positioned in said desired imaging position and providing a sensor output indicative thereof; and

a processor for receiving said first imaging information and said sensor output, and providing second imaging information based thereon.

27. An apparatus as set forth in Claim 26, wherein said source is operative for transmitting said radiation in a form of a beam having a first beam dimension that is less than a corresponding dimension of said selected region of said patient's body.

28. An apparatus as set forth in Claim 26, wherein said detector includes an active detective area having a first detector dimension less than a corresponding dimension of said patient's body.

29. An apparatus as set forth in Claim 26, wherein said selected region of said patient's body comprises at least a portion of a patient's breast and said patient support comprises a support for supporting said patient's breast.

30. An apparatus as set forth in Claim 29, wherein said support plate is separated from said detector by a selected air gap distance.

31. An apparatus as set forth in Claim 26, wherein said sensor is operative for providing information regarding a dimension of said selected region of said patient's body.

32. An apparatus as set forth in Claim 26, wherein said sensor is operative for providing information regarding a tissue density of said selected region of said patient's body.

33. An apparatus as set forth in Claim 26, wherein said sensor is operative for providing information regarding an intensity of radiation incident on said detector.

34. A method for use in imaging a selected tissue region of a patient's body, comprising the steps of:

transmitting a photonic energy relative to said area of interest of said patient's body during an exposure period of a radiographic procedure;

first operating a detector to detect portions of said photonic energy that have interacted with said area of interest of said patient's body and provide a detector output indicative thereof, wherein said detector output reflects imaging information for different portions of said area of interest obtained at corresponding different times of said exposure period;

establishing scatter compensation information for said radiographic procedure; and

second operating a processor to process said detector output, using said scatter compensation information to provide reduced scatter composite imaging information of said area of interest of said patient's body.

35. An apparatus for use in imaging a selected tissue region of a patient's body, comprising:

an imaging source for transmitting photonic energy relative to said area of interest of said patient's body during an exposure period of a radiographic procedure;

a detector for detecting portions of said photonic that have interacted with said area of interest of said patient's body and providing a detector output indicative thereof, wherein said detector output includes imaging information for different portions of said area of interest obtained at corresponding different times of said exposure period; and

a processor for accessing scatter compensation information for said radiographic procedure and processing said detector output using said scatter compensation information to provide reduced scatter composite imaging information of said area of interest of said patient's body.

36. An apparatus for use in imaging an area of interest of a patient's body, comprising:

an imaging source for transmitting an imaging signal relative to said area of interest of said patient's body during an exposure period;

a detector for detecting portions of said imaging signal that have interacted with said area of interest of said patient's body and providing a detector output indicative thereof, wherein said detector output includes imaging information for different portions of said area of interest obtained at corresponding different times of said exposure period;

a processor for processing said detector output to provide composite imaging information of said area of interest of said patient's body; and

a rejection assembly including at least one rejection element extending into a scatter incidence pathway for a detector location of said detector, said scatter incidence pathway being disposed at an angle relative to a primary incidence pathway extending linearly between said imaging source and said detector location.

37. An apparatus as set forth in Claim 36, wherein said rejection element is wholly located outside of an imaging region defined by said source and an active detector area of said detector that receives said imaging signal.

38. An apparatus as set forth in Claim 36, wherein said rejection element extends into an imaging region defined by said source and an active detector area of said detector that receives said imaging signal.

39. An apparatus as set forth in Claim 38, wherein said detector includes an active detector area that moves relative to a scan axis during said exposure period

40. An apparatus as set forth in Claim 39, wherein said rejection element is disposed at a nonzero angle relative to said scan axis.

41. An apparatus as set forth in Claim 36, wherein said rejection assembly includes a first rejection element and a second rejection element.

42. An apparatus as set forth in Claim 41, wherein said first element has a first longitudinal axis, and said second element has a second longitudinal axis that is substantially parallel to said first longitudinal axis.

43. An apparatus as set forth in Claim 42, wherein said detector includes an active detector area that moves relative to a scan axis during said exposure period and said first and second elements are disposedly on opposite sides of said active area and adapted for movement with said active detector area.

44. An apparatus as set forth in Claim 41, wherein said first element has a first longitudinal axis and said second element has a second longitudinal axis that is transverse to said first axis.

45. A method for use in imaging an area of interest of a patient's body, comprising the steps of:

transmitting a photonic imaging signal relative to said area of interest of said patient's body during an exposure period;

first operating a detector to detect portions of said imaging signal that have interacted with said area of interest of said patient's body and provide a detector output indicative thereof, wherein said detector output reflects imaging information for different portions of said area of interest obtained at corresponding different times of said exposure period;

second operating a processor to process said detector output to provide composite imaging information of said area of interest of said patient's body; and

selectively blocking, on a spatially dependent basis, photons that are directed to a detector location by allowing passage of first photons associated with a first pathway extending linearly between said source and said detector location and blocking photons associated with a second pathway disposed at an angle to said first pathway.

46. A method as set forth in Claim 45, wherein said step of transmitting comprises forming said photonic imaging signal into a beam having a dimension less than a corresponding dimension of said area of interest relative to a first axis and scanning said beam relative to said first axis during said exposure period.

47. A method as set forth in Claim 45, wherein said detector comprises an active detector area and said step of first operating comprises moving said active detector area during said exposure period.

48. A method as set forth in Claim 47, wherein said step of first operating comprises shifting charge across said active detector area in synchronization with movement of said active detector area so as to integrate charge associated with a particular location of said area of interest.

49. A method as set forth in Claim 45, wherein said step of selectively blocking comprises disposing a scatter rejection element relative to said detector location such that said rejection element extends into said second pathway and is separated from said first pathway.

50. A method as set forth in Claim 49, further comprising the step of moving said rejection element in only a first direction relative to a reference axis during said exposure period.

51. A method as set forth in Claim 45, wherein said step of selectively blocking comprises moving a scatter rejection structure in concert with said active detector area of said detector during said exposure period.

52. A method for use in imaging an area of interest of a patient's body using a source for transmitting a photonic imaging signal relative to the area of interest and a detector for detecting portions of the signal from the patient's body, comprising the steps of:

providing a scatter blocking assembly for blocking scattered photons directed towards a detector location on a scatter pathway separate from a primary signal pathway extending linearly between the source and the detector area;

disposing the scatter blocking assembly between the source and the detector; and

using the scatter blocking assembly to block scattered photons throughout an image area corresponding to the area of interest substantially without blocking any non-scattered signal transmitted from the source to the detector free of scatter events.

53. A method as set forth in Claim 52, wherein said detector comprises an active detector area wherein said active detector area moves relative to said area of interest during an exposure period and said step of using comprises moving said scatter blocking assembly in concert with said active detector area during said exposure period.

54. A method for use in imaging an area of interest within a patient's body, comprising the steps of:

establishing a mathematical model for modeling a magnitude of expected scatter detection as a function of a distance between tissue being imaged and a detector surface; and

using the mathematical model to set a distance between a tissue support structure and a detector of a medical imaging device.

55. A method for use in imaging a selected tissue region of a patient's body, comprising the steps of:

disposing a scatter rejection structure between a source and a detector;

operating the source to transmit an imaging signal during an exposure period; and

moving the scatter rejection structure in only a first direction relative to a reference axis during the exposure period.

56. A method for use in imaging an area of interest of a patient's body, comprising the steps of:

transmitting a photonic imaging signal relative to said area of interest of said patient's body during an exposure period of a radiographic procedure;

with said patient in an imaging position for said radiographic procedure, measuring at least a first imaging parameter value and a second imaging parameter value;

detecting portions of said photonic imaging signal from said area of interest of said patient's body and providing imaging information based thereon; and

operating a processor to process said imaging information using said first and second imaging parameter values.

57. A method as set forth in Claim 56, wherein at least one of said first and second imaging parameter values is a value of a patient dependent parameter.

58. A method as set forth in Claim 56, wherein at least one of said first and second imaging parameter values relates to an imaging signal parameter.

59. A method as set forth in Claim 58, wherein said at least one of said parameter values relates to an intensity of said detected photonic imaging signal.

60. A method as set forth in Claim 58, wherein said at least one of said parameter values is used to determine a signal intensity profile.

61. A method as set forth in Claim 56, wherein said first and second imaging parameter values relate to an imaging signal parameter at first and second times of the said exposure period.

62. A method as set forth in Claim 61, wherein said step of detecting comprises moving an active detector area relative to said area of interest during said exposure period.

63. A method as set forth in Claim 56, wherein said step of transmitting a photonic imaging signal comprises forming said signal into a beam having an elongate cross-section and said first and second imaging parameter values are used to establish an intensity profile relative to an axis of said beam.

64. A method as set forth in Claim 56, wherein said step of operating comprises using said first and second imaging parameter values to estimate an amount of scatter reflected in said imaging information.

65. An apparatus for use in imaging an area of interest of a patient's body, comprising:

a source for transmitting a photonic imaging signal relative to said area of interest of said patient's body during an exposure period of a radiographic procedure;

a sensor system for measuring, with said patient in an imaging position for said radiographic procedure, at least a first imaging parameter value and a second imaging parameter value and providing an imaging parameter output indicative thereof;

a detector for detecting portions of said photonic imaging signal from said area of interest of said patient's body and providing imaging information based thereon; and

a processor for using said imaging parameter output to process said imaging information.

66. An apparatus as set forth in Claim 65, wherein said sensor system comprises a first sensor for sensing a patient dependent parameter value.

67. An apparatus as set forth in Claim 65, wherein said sensor system comprises a sensor for sensing an imaging signal parameter.

68. An apparatus as set forth in Claim 67, wherein said imaging signal parameter relates to an intensity of said detected photonic imaging signal.

69. An apparatus as set forth in Claim 67, wherein said imaging signal parameter relates to a signal intensity profile of said detected photonic imaging signal.

70. An apparatus as set forth in Claim 65, wherein said detector includes an active detector that is movable relative to said area of interest during said exposure period.

71. An apparatus as set forth in Claim 65, wherein said source comprises a beam forming element for forming said signal into a beam having an elongate cross-section and said processor is operative for establishing an intensity profile relative to an axis of said beam.

72. An apparatus for use in imaging a selected tissue region of a patient's body, comprising:

source means for transmitting radiation through a selected tissue region of a patient's body;

receiving means disposed in opposing relation to said source means such that said selected tissue region of said patient's body is positionable therebetween, said receiving means comprising an array of detector elements for accumulating electrical charge in relation to said radiation;

scanning means for scanning said receiving means by moving said array across said selected tissue region of said patient's body as radiation is transmitted through said selected region of said patient's body;

profiling means for providing intensity information regarding radiation transmitted from said source means; and

processing means for processing an output signal relating to said electrical charge and for composing a composite image indicative of said selected tissue region of said patient's body.

73. An apparatus as set forth in Claim 72, wherein said profiling means comprises detector elements for detecting radiation at different locations relative to said receiving means so as to profile and intensity of radiation incident on said receiving means relative to at least one axis.

74. A method of using a medical imaging system for imaging a tissue region of interest of a patient's body, comprising the steps of:

emitting radiation from a radiation source toward an active array of detector elements;

moving said active array of detector elements along a scan path substantially aligned with a support surface for placement of a portion of a patient's body including a

selected tissue region to be imaged, said support surface being located between said radiation source and said array of detector elements;

passing said radiation from said radiation source to a first intensity profiling structure during said emitting step;

receiving said radiation from said radiation source using said array of detector elements and generated imaging information based thereon;

generating radiation intensity profile data indicative of said radiation transmitted to said profiling structure; and

using said profile data to process said imaging information.

75. A method as set forth in Claim 74, wherein said step of generating comprises establishing a radiation intensity profile relative to an axis of said scan path.